From: "Young, Howard S." <younghs@cdmsmith.com>
To: "Scott Coffey" <coffeyse@cdmsmith.com>
"Zhen, Davis" <Zhen.Davis@epa.gov>
CC: "Sheldrake, Sean" <sheldrake.sean@epa.gov>
"Vickstrom, Kyle E." <vickstromke@cdmsmith.com>
Date: 7/11/2018 12:58:55 PM
Subject: RE: Porewater FSP Rev 2

Davis,
One other comment on this FSP is that they need to include the manufacturers manual for the YSI ProODO dissolved oxygen meter instead of the YSI Pro 20 dissolved oxygen meter. They are using the YSI ProODO in the field. While the instruments have almost the same specs and are both use optical DO sensors, the FSP should include the relevant owners manual.

Thanks
Howard

From: Coffey, Scott
Sent: Tuesday, July 10, 2018 9:09 PM
To: Zhen, Davis <Zhen.Davis@epa.gov>
Cc: Sheldrake, Sean <sheldrake.sean@epa.gov>; Young, Howard S. <younghs@cdmsmith.com>; Vickstrom, Kyle E. <vickstromke@cdmsmith.com>
Subject: FW: Porewater FSP Rev 2

Hi Davis.

We completed our review of the updated Porewater FSP provided yesterday, Monday 7/9. The updated porewater FSP addresses our comments on that document with the following three exceptions (presented below). Also, we are still waiting on the Task Specific HASP for porewater installation and Dive Safety Plan for peeper installation. Ken mentioned providing that last Friday 7/6 (highlighted below), but I don't see that in my email inbox.

We have has completed review of the Revised Agency Approval Draft Porewater Field Sampling Plan. A summary of the comments on outstanding issues with the FSP are as follows:

1. Field Instrument Calibration (Section 4.3, page 10) - There is no specific information in this FSP or the QAPP for how often to calibrate the DO meter and other field instruments. The added appendices are not SOPs and they only contain manufacturer instructions on how to operate and calibrate the instrument. SOPs typically contain critical application-specific details such as, frequency of calibration, type of calibration standards to use, calibration acceptance criteria. Per the recommendations on YSI's website and as discussed on the 7/10 conference call between EPA and the Pre-RD Group, the field instruments should have calibration checked and /or recalibrated daily prior to use in the field. Per Section 4.10 of this FSP, the DO probe should be calibrated via a 2-point calibration (0 and 100% oxygen saturation) prior to use in the field. EPA expects this to include daily calibration checks and/or recalibration of all DO probes, ORP probes and any other field measurement device against appropriate standards. Calibration acceptance criteria for each parameter should also be included. The text of the FSP should be revised to clarify these details or complete SOPs should be added.
2. DO Meter Stabilization Time (Section 4.3, Page 11) - The 5 second DO measurement time may be faster than the response time listed in the YSI Pro 20 specifications. Please verify the sensor and membrane type and that 5 seconds is long enough for a stable oxygen reading.
3. Use of Non-DO or ORP Surface Water Quality Parameters (Section 4.4.3, page 14) - To clarify EPA's comment on field measurement of the full water quality parameters, we are requesting that all water quality parameters (DO, ORP, temp, pH, conductivity) be measured in all 5 of the vials in the central peeper (fourth peeper placed in the middle of the 3-point composite area). EPA does not agree with the PreRD Group's opinion that it is unnecessary to compare peeper vial water to the surface water parameters. If similar concentrations of these water quality parameters are observed in the peeper vials and surface water, the sample may be considered compromised by surface water, regardless of the DO and ORP measurements in a peeper vial. EPA will be

3. evaluating this data to determine if the peeper vials input to the composite is representative of porewater and a valid sample.

From: Tyrrell, Ken <ken.tyrrell@aecom.com>
Sent: Monday, July 09, 2018 3:35 PM
To: Zhen, Davis <Zhen.Davis@epa.gov>
Cc: Coffey, Scott <CoffeySE@cdmsmith.com>; Young, Howard S. <younghs@cdmsmith.com>; Vickstrom, Kyle E. <vickstromke@cdmsmith.com>
Subject: Porewater FSP Rev 2

Davis,

Please find attached the revised Porewater Field Sampling Plan (FSP) (rev 2) dated July 9, 2018 for your review and approval. Revision 1 was submitted to EPA on June 21, 2018, with additional comments received from EPA on June 28th. Thank you for conditional approval of Section 4.3 (provided to EPA on June 29th), pending final review of the FSP that addresses your comments. The revised FSP is attached as RLSO (with bubble comments/responses) and a clean complied pdf of the full FSP.

Attachments include:

- FSP Text in RLSO (with EPA bubble comments/our responses)
- Clean FSP text, tables, figures, appendices in PDF

Some thoughts for your review:

- No changes to tables or figures since June 21.
- Appendices A and B have been revise (SOPs, equipment operating manuals for the DO and ORP probes, field forms, and equipment checklists).
- Since June 29, the field teams have collected PDI D/U Reach baseline sediment grab samples in some porewater sampling areas (see the table below for a summary). To build off the understanding of field conditions gained during the on-going D/U sampling and to allow for the efficient use of previously collect sediment samples, we've added minor edits to Section 4.3 in the attached.
- Revised HASP addendum was provided to EPA on July 6 (see separate email)
- Clarifications
    - MoS#1: This comment regards the terminology use of peeper, peeper vial and peeper frame in text. We clarified these terms (see RLSO).
    - TBC#4: This comment regards the additional steps to be taken to minimize porewater contact with oxygen. Please see responses in text; all steps are described within the FSP.

Proposed Peeper Target Area	Co-located Sediment Sample ID	Approximate Location	When D/U Reach Sample Collected (target location unless noted)	Water Depth (feet)	Proposed Coord (NAD 1983
					Easting
1	PDI-SG-B441	RM 14.0 E	6/29/2018	17	7647802
2	PDI-SG-B455	RM 15.6 E	6/30/2018	30	7648051
3	PDI-SG-B453 (or B454)	RM 15.6 W	7/1/2018	10	7646045
4	PDI-SG-B460	RM 17.0 W	7/1/2018	6	7647231
5	PDI-SG-B466	RM 18.5 W	7/2/2018	13	7651174
6	PDI-SG-B467	RM 18.8 E	No sample due to low fines content	28	7651565
7	Needs new grab	RM 20.0 W		No Data	7648346
8	PDI-SG-B474	RM 22.7 E		No Data	7655566
9	PDI-SG-B475/476	RM 23.2 W		No Data	7655850
10	PDI-SG-B477	RM 24.2 W		No Data	7657537

11	Needs new grab	RM 27.3 W		No Data	7653894
12	PDI-SG-B487	RM 28.7 W		No Data	7649518

Please don t hesitate to call with questions,

Ken Tyrrell
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